IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A projection system, comprising:

a projection device configured to receive a beam of radiation coming from a first object and to project the beam of radiation to a second object;

a sensor configured to measure a spatial orientation of the at least one projection device; and

a processing unit configured to communicate with the sensor and with a positioning device, the positioning device configured to adjust the position of the projection device and at least one of the first object and the second object based on the measured spatial orientation of the projection device,

wherein the processing unit is configured to

adjust the position of at least one of the first object and the second object based on the measured spatial orientation of the projection device in a first frequency range; and

adjust the spatial orientation of the projection device based on the measured spatial orientation of the projection device in a second frequency range.

2. (Canceled)

3. (Previously presented) A projection system according to claim 1, wherein the positioning device is configured to adjust the position of at least one of the first object and the second object based on a residual error after adjusting the spatial orientation of the projection device.

4. (Canceled)

5. (Previously presented) A projection system according to claim 1, wherein the projection device comprises a mirror or a lens.

6. (Currently amended) A projection system according to claim 1, wherein the projection device is mounted on a mounting device configured to actuate the ~~at least one~~ projection device in at least one degree of freedom.

7. (Original) A projection system according to claim 1, wherein the beam of radiation is an extreme ultraviolet beam of radiation.

8. (Previously presented) A projection system according to claim 1, wherein the processing unit is configured to communicate with a second sensor configured to determine a position of at least one of the first object and the second object.

9. (Original) A projection system according to claim 1, wherein the processing unit comprises an I/O-device, a micro-processor, and a memory device.

10. (Currently amended) A method for projecting a beam of radiation coming from a first object, and received by a projection device, to a second object, the method comprising:

measuring a spatial orientation of the projection device;

determining an orientation error in the spatial orientation of the projection device;

computing a projection error of an image projected on the second object based on the orientation error in the spatial orientation of the projection device; and

adjusting a position of the projection device and at least one of the first object and the second object to minimize a projection error,

wherein the adjusting comprises

adjusting the position of at least one of the first object and the second object based on the measured spatial orientation of the projection device in a first frequency range; and

adjusting the spatial orientation of the projection device based on the measured spatial orientation of the projection device in a second frequency range.

11. (Previously presented) A method according to claim 10, further comprising

calibrating an alignment of the first object to the second object in at least one degree of freedom.

12. (Currently amended) A lithographic apparatus, comprising:

an illumination system configured to provide a beam of radiation;

a support configured to support a patterning device, the patterning device configured to impart the beam with a pattern in its cross-section;

a substrate table configured to hold a substrate;

a projection system configured to project the patterned beam onto a target portion of the substrate, the projection system comprising:

a projection device configured to receive a beam of radiation coming from a first object and project the beam of radiation to a second object;

a sensor configured to measure a spatial orientation of the projection device; and

a processing unit configured to communicate with the sensor and with a positioning device, the positioning device configured to adjust the position of the projection device and at least one of the first object and the second object based on the measured spatial orientation of the projection device,

wherein the processing unit is configured to

adjust the position of at least one of the first object and the second object based on the measured spatial orientation of the projection device in a first frequency range; and

adjust the spatial orientation of the projection device based on the measured spatial orientation of the projection device in a second frequency range.

13. (Canceled)

14. (Previously presented) An apparatus according to claim 12, wherein the positioning device is configured to adjust the position of at least one of the first object and the second object based on a residual error after adjusting the spatial orientation of the projection device.

15. (Canceled)

16. (Previously presented) An apparatus according to claim 12, wherein the projection device comprises a mirror or a lens.

17. (Previously presented) An apparatus according to claim 12, wherein the projection device is mounted on a mounting device configured to actuate the projection device in at least one degree of freedom.

18. (Original) An apparatus according to claim 12, wherein the beam of radiation is an extreme ultraviolet beam of radiation.

19. (Previously presented) An apparatus according to claim 12, wherein the processing unit is configured to communicate with a second sensor configured to determine a position of at least one of the first object and the second object.

20. (Original) An apparatus according to claim 12, wherein the processing unit comprises an I/O-device, a micro-processor, and a memory device.

21. (Currently amended) A device manufacturing method, comprising:

projecting a beam of radiation coming from a patterning device, and received by ~~at least one~~ a projection device, to a substrate at least partially covered by a layer of radiation sensitive material, the projecting comprising:

measuring a spatial orientation of the projection device;

determining an orientation error in the spatial orientation of the projection device;

computing a projection error of an image projected on the substrate based on the orientation error in the spatial orientation of the at least one projection device; and

adjusting a position of the projection device and at least one of the patterning device and the substrate to minimize a projection error,

wherein the adjusting comprises

adjusting the position of at least one of the first object and the second object based on the measured spatial orientation of the projection device in a first frequency range; and

adjusting the spatial orientation of the projection device based on the measured spatial orientation of the projection device in a second frequency range.

22. (Original) A method according to claim 21, further comprising:

calibrating an alignment of the patterning device to the substrate in at least one degree of freedom.